

INFORMATION REPORT INFORMATION REPORT

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COUNTRY Czechoslovakia

REPORT

SUBJECT Poldi Foundry of the United Steel Works (SONP) at Kladno

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report on the Poldi Foundry of the United Steel Works (SONP) at Kladno.

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SECRET**POLDI STEEL PLANT IN Kladno, CZECHOSLOVAKIA**
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Location

The Poldi plant in Kladno is located between the road from Kladno to Dubi via Moticin and Uiezd pod Kladnem, and the Dubi railroad station, about 600 meters southwest of the station.

The area occupied by the plant is surrounded by a 2-meter-high concrete wall, except for the area between the electric power plant tower and the place where trains stop to load and unload freight.

The entrance to the foundry is located on Hutská Ulice.

The official name of the plant is "Amalgamated Steel Mill," People's Enterprise, Poldi, Kladno.

Personnel

The personnel employed in the plant's administration totals more than 2,000 persons including clerks and officials.

There are about 20,000 blue-collar workers.

Production

The Poldi plant in Kladno is the only one in Czechoslovakia which produces special steel alloys for particular uses, for example, building construction and various machines.

The steel foundry and plant in question therefore meets all the special-steel needs of Czechoslovakia and has the important function of furnishing steel to other machine industry plants of the country.

Production at the Poldi plant is varied: it is not possible to describe in detail all the various types of production, since there are at least


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2,000 different grades of steel which are used for the manufacture of a still greater number of products.

The base for all the production of the foundry in question is naturally raw steel, as it comes out of the blast furnaces. But once it has gone through the first treatment in the blast furnaces, the raw steel is put in other electric, high-frequency blast furnaces. The second phase of treatment can also be carried out in cupola furnaces or in so-called "induction furnaces." During this second phase, the raw steel is mixed with other elements which are suited to making an alloy; afterwards, it is therefore the amounts and varieties of these various alloy elements which determine the many different types of steel. After this second treatment in the furnaces, the steel usually is made into ingots.

The steel produced in this foundry is also tempered there, and other processes are also carried out there so as to make the necessary grades of steel to meet all the requirements for elasticity and resistance to heat and wear.

Among the industrial products which are made at the Poldi plant are the following:

- drilling equipment
- petroleum pumping equipment
- protective coatings of metal with special hardness
- metal filaments for the protection of cables
- non-magnetic steel. "POLDI-AM" steel is particularly suited for dynamo parts. It is very suitable for measuring instruments. Another steel of this type is the so-called silver steel "POLDI SP" which can be used in various ways.

- hard steel and POLDI-diadur steel (extra hard steel). This is steel to which carbide and wolfram have been added. Wolfram, in the alloy, amounts to about 50-80 percent; this is steel for special uses.

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The greatest secrecy is maintained on these types of steel. As far as is known, this steel comes in small plates of various shapes. Such steel, in addition, fulfills the requirements for great hardness; its weight is also considerable (150 kilograms per one-square-meter plate).

These types of steel are used in the production of missiles, ammunition, mine drilling apparatus, and petroleum drilling apparatus.

Buildings, Equipment and Production of Individual Departments:

-- Administration building of the POLDI Steel Plant: three floors: 80 x 12 meters. In addition to the administrative offices, the printing office and the laboratory are located in this building.

-- Closed Shed Housing Electric Generators (1): ground floor only; 18 x 50 meters and 10 meters high.

-- Steel Processing Shop (I) ground floor only; 80 x 30 x 25 meters, connected with shops III, IV, and V.

Operating on three daily work shifts, this shop produces a total of 1,200 tons of steel.

-- Research Section: This section is located in a building with asbestos walls and barrel-shaped roof; the dimensions are 17 x 12 x 8 meters. It is a secret department in which are located miniature furnaces for research and studies on improvement of the quality of steel.

-- Production Shed: made of brick with saddle roof, about 200 x 25 x 16 meters. The equipment storeroom is located in part 8a; rolling mill II is in part 8b.

-- Rolling Mills III, IV, V: these rolling mills are located in buildings, 180 x 40 meters each, with ground floor only.

-- Boiler Department: located in a brick building about 130 x 15 x 20 meters; three chimneys rise about 3 meters above the roof of the building. Near this building there are four other chimneys, each 40 meters high.

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-- Electric Shop (I) equipped with the following:

- 1 steam turbine [] capable of supplying 7,800 volts of current; this turbine is coal-operated. The coal comes from the Zapotocky mines;

- 2 small CKD turbines;

- 1 transformer of about 10,000 watts.

-- Forges I, II, III: these forges are located in a building, 85 x 40 x 20 meters in size, with saddle roof and brick walls.

-- Closed Shed for Ingot Washing: brick building, 70 x 20 x 12 meters in size, with saddle roof, near the buildings indicated with numbers 12 and 12 a.

Cold Tempering Closed Shed II: one-story building, about 70 x 20 x 10 meters, adjacent to section 13 a.

Electric Power Plant's Cooling Tower: about 12 meters high, 6 meters in diameter, built of wood.

Forging Department: building 40 x 15 x 15 meters in size, indicated by no 15. Department 15 a, with 3 compressors of 60, 120 and 160 atmospheres, respectively, is adjacent to this department.

Forging Department: indicated with No 16, adjacent to department 16a (dimensions about 15 x 25 x 15 meters).

Products Testing Plant (hardness): No 16a, in building 16.

Closed Shed for Super-Hard Steel Production: three-story buildings, about 35 x 12 meters. Steel plates in various shapes and dimensions are produced there and are used in the manufacture of grenades, cartridges, and drilling equipment for the mining and petroleum industries.

Department for the Strengthening of Steel (No 19a): Building with dimensions of 200 x 25 x 6 meters.

Maintenance Shop for the Entire Plant (No 19b).

Armor-Plate Shop (No 19 c): The bodies of armored vehicles are assembled in this shop.

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Machine Shop III (No 30): building joined to No 20a; dimensions, 25 x 20 x 8 meters. Next to this building is the one numbered 20 a, engine shed for the little narrow-gauge railroad; there are 35 steam and 4 diesel engines.

Building for the BETONA Firm Offices: 25 x 8 x 3.5 meters.

Machine Shop I: near machine shop II (Nos 22 and 22a); building 260 x 50 x 12 meters.

Machine Shop II (22 a)

Anticorrosion Polishing Section: (No 23); 130 x 20 x 5 meters.

Washing Section (No 23 a)

Cutting Section for Non-Corrosive Steel (23b).

Cold Strengthening Section for all Types of Steel: Building 250 x 170 x 12 meters (No 24). There are four 40-meter-high chimneys near this building.

Forge (No 25) together with buildings No 25a and 25d; dimensions, 130 x 70 x 10 meters.

Boiler Forge (No 25a)

Armor-Plate Testing Department (No 25): buildings of reinforced concrete, about 8 meters wide and 3.5 meters high; there are underground rooms for use as air raid shelters. 50 meters away the strength of armor-plate is tested.

Closed Shed for the Production of Stainless Steel (No 25 c).

Tempering Department II (No 25e)

Tempering Department III (No 26): building measures 170 x 50 x 7 meters; nearby is located a chimney which is about 35 meters high.

Rolling Mill I (No 27): building measuring 200 x 30 x 18 meters; departments numbered 27a and 27b are also located here.

Rolling Mill-Lathe [sic] (No 27a).

Washing Shop for Semi-Finished Products II (No 27b).

No 29; building where department No 29a is also located; this building is 25 x 6 x 3 meters. In this department, gauges and measuring instruments are repaired.

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Washing Room No 1 for Semi-Finished Products (No 31); 80 x 25 x 4 meters.

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Office Building (No 32): 15 x 6 x 3 meters.

Building Measuring 25 x 18 x 10 meters in which the room for preparing the alloy is located (No 33).

Shop II for Washing the Steel (No 35); building made of brick, 150 x 80 x 30 meters, with three chimneys, each about 60 meters high.

Locomotive Repair Shop, Foundry (36); 50 x 15 x 6 meters.

Boiler Shop II and Electric Power Plant II (No 38); building measuring 150 x 70 x 40 meters; on the roof there are tin plate chimneys 6 meters high.

Electric Power Plant II: equipped with: 1 Harrison turbine (turbo generator) of 59 atmospheres; can produce up to 25,000 volts. Normally, this is not needed to operate the power plant; it is used in case of necessity. Preparations for the construction of a similar new turbine are under way.

Two Towers of the Electric Power Plant (No 39), made of wood, 25 meters high and 15 meters in diameter.

New Rolling-Mill Under Construction (No 47). Construction of the new rolling-mill was begun in December 1955; the closed shed which will house it is to be ready during 1956.

Security Measures of the Plant

About 5,000 persons are members of the plant militia which is headed by Josef GREGOR, Communist. The members of the militia are trained at the KRUCI firing range near Kladno. The militia is equipped with rifles; every platoon has a light machine gun. All members of the militia carry a pistol. In addition to the militia, there are other personnel (about 250) who perform services necessary to the security of the plant. They take turns watching all the means of access to the plant. In addition, 70 of these guard the perimeter of the area occupied by the plant; they are armed with pistols and wear a green uniform and beret with a shield bearing the letters PH, meaning Poldina Hut. Among the duties of the same personnel is the surveillance of persons sentenced to work at the plant.

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1. Administration building.
2. Closed shed housing electric generators I.
3. Steel production shop I.
4. Bridge scale.
5. Building in planning stage.
6. Equipment and machinery storage warehouse.
7. Shop management.
8. Production closed shed.
9. Rolling-mill.
10. Boiler Department I.
- 10a. Electric shop I.
11. Forge.
12. Finishing building.
13. Steel strengthening closed shed II.
14. Cooling tower.
15. Forge.
16. Forge.
17. Super-hard steel production closed shed.
18. Equipment storehouse.
19. Steel strengthening shop and steel-plate shop.
20. Machine shop III.
21. BETONA offices.
22. Machine shop I.
23. Steel polishing department.
24. Cold strengthening department.
25. Foundry.
26. Tempering.
27. Rolling-mill I.
28. Precision shop

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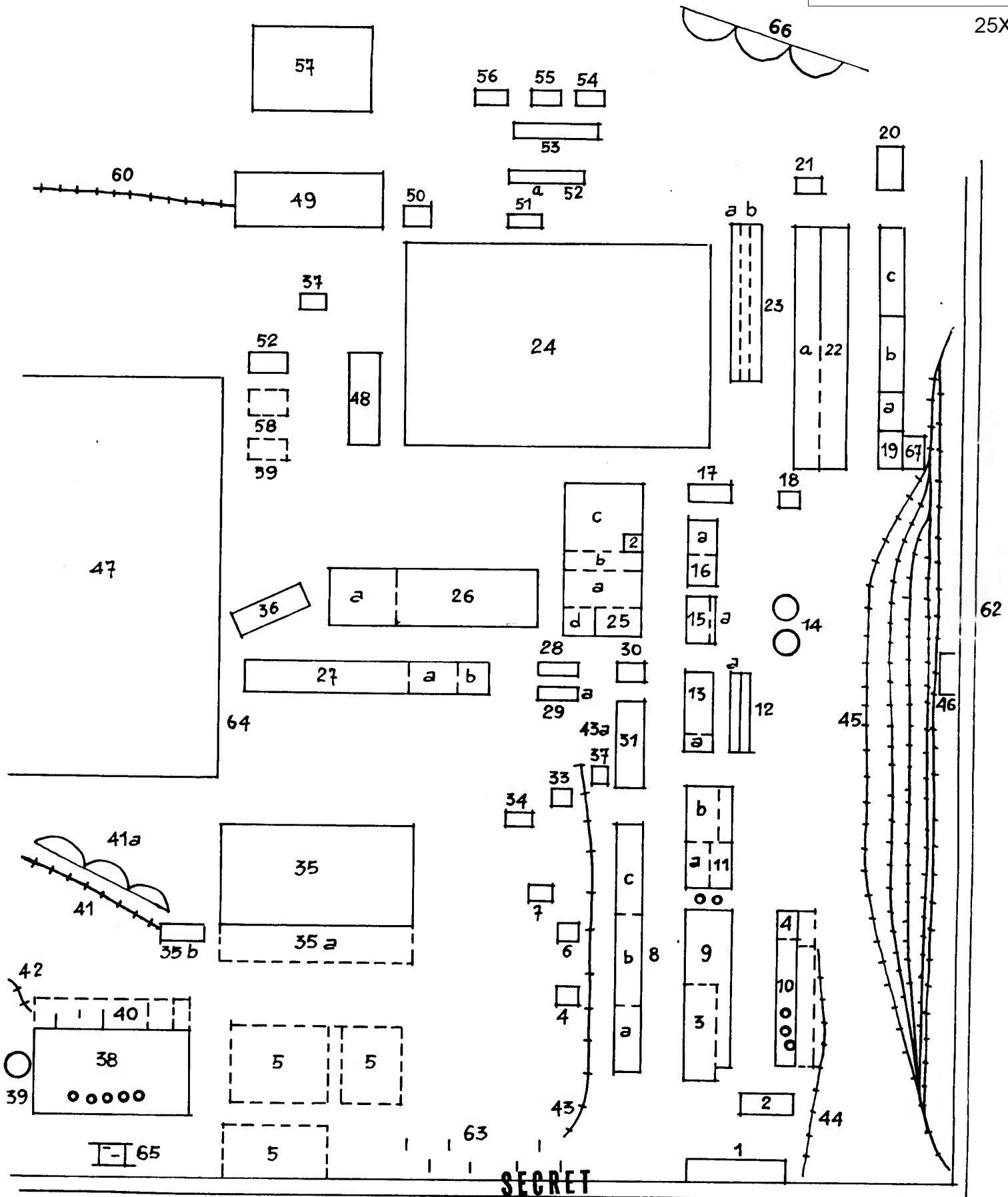
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- 29. Precision shop.
- 30. Heating plant.
- 31. Closed shed for finishing.
- 32. Office building.
- 33. Closed shed for production.
- 34. ?
- 35. Steel production (shop II).
- 36. Repair shop.
- 37. Grinding section.
- 38. Boilers and electric power plant II.
- 39. Cooling tower.
- 40. Coal piles.
- 41, 42, 43, 44. Sidings.
- 45. Freight siding.
- 46. Freight station.
- 47. New rolling-mill.
- 48, 49. Equipment warehouse.
- 50. Offices.
- 51-56. Technical offices.
- 57. Garage.
- 58, 59. Construction offices.
- 60. Railroad siding.
- 61, 62. Enclosure.
- 63. Scrap dump.
- 64. Equipment depot.
- 65. Slag pile.
- 66. Coal stocks.
- 67. Machinery exit.

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